

SMCY-P02-098

What is claimed is:

Claims:

1. A mattress assembly comprising

a plurality of coil springs arranged to define a mattress core structure, and

at least one additional multi-strand coil spring fabricated of a plurality of wire

5 strands and disposed inside a corresponding one of the coil springs of the mattress core structure.

2. A mattress assembly comprising

a plurality of coil springs arranged to define a mattress core structure,

wherein at least a subset of the coil springs comprises multi-strand coil springs

10 fabricated of a plurality of wire strands and positioned in substantially parallel alignment to each of the coil springs that are not part of the subset,

wherein the multi-strand coil springs and the coil springs that are not part of the subset are placed side-by-side.

15 3. The mattress assembly of claims 1 or 2, wherein at least one strand of the plurality of the wire strands is made of a different material than another of the wire strands.

4. The mattress assembly of claim 3, wherein the material is selected from the group consisting of steel, bronze and plastic.

5. The mattress assembly of claims 1 or 2, wherein at least a portion of the coil springs and the multi-strand coil springs is surrounded by a foam or rubber-like material.

6. The mattress assembly of claim 5 wherein the coil springs and the multi-strand coil springs are encased in a foam or rubber-like material.

7. The mattress assembly of claims 1 or 2, wherein the coil springs comprise solid wire springs.

5        8. The mattress assembly of claims 1 or 2, wherein the coil springs comprise multi-strand coil springs.

9. The mattress assembly of claims 1 or 2, wherein the multi-strand coil springs have a different spring rate than the coil springs.

10.A mattress assembly comprising

10                a plurality of coil springs arranged to define a mattress core structure,

                 wherein at least a subset of the coil springs comprises a composite coil spring, with a first section of the composite coil spring being fabricated of a plurality of wire strands and a second section of the composite coil spring adjoining the first section in a longitudinal spring direction being fabricated of a solid coil wire, and wherein adjoining end portions of  
15                the first and second section are rigidly connected with each other.

11.The mattress assembly of claim 10 wherein the first and second section are connected with each other by placing a bushing over the end sections.

12.The mattress assembly of claim 10 wherein the first and second sections are connected with each other by a material connection.

13. The mattress assembly of claim 12 wherein the material connection comprises a welded or brazed joint.

14. The mattress assembly of one of claims 1, 2 or 10, and further including a border wire, wherein at least part of the border wire is made of a multi-strand wire.

5        15. The mattress assembly of claim 1, wherein each of the wire strands has a helical twist with a direction that is opposite to a twist direction of the multi-strand coil spring.

16. The mattress assembly of one of claims 1, 2 or 10, comprising at least three wires strands.

17. The mattress assembly of one of claims 1, 2 or 10, wherein the multi-strand wires are provided with a protective coating selected from the group consisting of galvanized exterior,  
10    plastic and epoxy overcoating.

18. The mattress assembly of one of claims 1, 2 or 10, wherein the multi-strand coil spring is provided with a protective coating.

19. The mattress assembly of one of claims 1, 2 or 10, wherein the multi-strand coil spring is constructed so as not to have a central cord.

15        20. The mattress assembly of one of claims 1, 2 or 10, wherein the mattress core comprises a pocketed coil mattress core.

21. The mattress assembly of one of claims 1, 2 or 10, wherein the mattress core comprises an open-coil mattress core.

22. The mattress assembly of claim 2, wherein the mattress core comprises alternatingly

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connected coil springs that form a contiguous array of coil springs.